Amendment to the Claims:

Amendments to claims 1 and 25 were made with this Response to Third Office Action.

Listing of Claims:

1. (currently amended) A method for defining one or more communication channels in an Ultra Wideband system ~~specifying at least one characteristic of at least one pulse~~, comprising:

generating at least one code having at least one code element value representing at least one non-temporal ~~pulse~~ characteristic of at least one Ultra Wideband waveform ~~pulse~~, wherein said at least one non-temporal characteristic comprises at least one of ~~a pulse width characteristic,~~ an ~~pulse~~ amplitude ~~characteristic,~~ and a ~~pulse~~ type ~~characteristic~~; and

associating said at least one code element value with said at least one non-temporal ~~pulse~~ characteristic ~~to define a communications channel~~.

2. (cancelled)

3. (cancelled)

4. (cancelled)

5. (cancelled)

6. (currently amended) The method of claim 1, wherein said code element values are associated with at least one temporal ~~pulse~~ characteristic in addition to said at least one non-temporal ~~pulse~~ characteristic.

7. (currently amended) The method of claim 6, wherein said temporal ~~pulse~~ characteristic corresponds to a ~~pulse~~ position in time.

8. (original) The method of claim 1, wherein each of said code element values comprises an integer or floating-point value.

9. (original) The method of claim 1, wherein each of said code element values indicate any one of:

at least one component;

at least one sub-component of said component; and

at least one smaller component of said sub-component established by recursively breaking down said sub-component into smaller parts,

wherein said at least one component, said at least one sub-component, and said at least one smaller component are defined within at least one layout comprising a range of non-temporal pulse characteristic values.

10. (original) The method of claim 9, wherein any one of said at least one component is any one of:

a same size; and

a different size

than others of said at least one component, and

wherein any one of said at least one sub-component is any one of:

a same size; and

a different size

than others of said at least one sub-component, and

wherein any one of said at least one smaller component is any one of:

a same size; and

a different size

than others of said at least one smaller component.

11. (original) The method of claim 9, wherein said at least one component, said at least one sub-component, and said any number of smaller components comprise at least one non-allowable region established by at least one rule.

12. (original) The method of claim 11, wherein said at least one rule establishing at least one non-allowable region is based on any one of:

a minimum value; and

a maximum value,

of any one of:

said at least one component;

said at least one sub-component; and

said any number of smaller components.

13. (original) The method of claim 11, wherein said at least one rule establishing at least one non-allowable region is based on minimum and maximum values within any one of:

said at least one component;

said at least one sub-component; and

said any number of smaller components,

within a layout.

14. (original) The method of claim 11, wherein said at least one rule establishing at least one non-allowable region is based on at least one non-temporal characteristic value of at least one other pulse.

15. (original) The method of claim 14, wherein said at least one rule establishes a minimum value difference or a maximum value difference.

16. (original) The method of claim 14, wherein said at least one rule establishes a region bounded by a minimum and maximum value difference.

17. (original) The method of claim 9, wherein an established offset value is used to specify an exact non-temporal characteristic value within any one of:

said at least one component;

said at least one sub-component; and

said any number of smaller components indicated by said code element value.

18. (original) The method of claim 17, wherein an absolute offset value is added to the minimum value of the component, sub-component, or smaller component to which the code element value is mapped.

19. (original) The method according to claim 17, wherein a relative offset value is used to specify a value that is a fraction of the difference between the minimum value and maximum value of any one of:

said at least one component;

said at least one sub-component; and

said any number of smaller components.

20. (original) The method of claim 19, wherein a fractional part of a floating-point code element value comprises said relative offset value.

21. (cancelled)

22. (currently amended) The method according to claim 1, wherein the type of said Ultra Wideband waveform comprises at least ~~pulse indicates whether said pulse is any~~ one of:

a square wave pulse;

a sawtooth pulse;

a Haar wavelet pulse;

a Gaussian monopulse;

a doublet pulse;

a triplet pulse; and

a set of wavelets.

23. (original) The method according to claim 1, wherein each code element value corresponds to a value defined within a layout comprising discrete non-temporal pulse characteristic values.

24. (currently amended) The method according to claim 1, wherein each code element value corresponds to a value defined within a layout comprising a range of non-temporal ~~pulse~~ characteristic values and discrete non-temporal ~~pulse~~ characteristic values.

25. (original) The method according to claim 9, wherein said layout is a delta value layout.

26. (currently amended) An ~~impulse transmission~~ Ultra Wideband system comprising:

an ~~Time Modulated~~ Ultra Wideband Transmitter;

an ~~Time Modulated~~ Ultra Wideband Receiver; ~~and~~ wherein said ~~Time Modulated~~ Ultra Wideband Transmitter and said ~~Time Modulated~~ Ultra Wideband Receiver employ at least one code, wherein said at least one code ~~has~~ comprises at least one code element value, and said at least one code element values ~~are~~ being associated with at least one non-temporal pulse characteristic of at least one ~~pulse~~ Ultra Wideband waveform to define one or more communication channels, said at least one non-temporal characteristic comprising at least one of ~~a pulse width characteristic,~~ an ~~pulse~~ amplitude ~~characteristic,~~ and a ~~pulse~~ type ~~characteristic~~.

27. (cancelled)

28. (cancelled)

29 (cancelled)

30. (cancelled)

31. (currently amended) the ~~impulse transmission~~ Ultra Wideband system of claim 26, wherein said code element values are associated with at least one temporal ~~pulse~~ characteristic in addition to said at least one non-temporal ~~pulse~~ characteristic.

32. (currently amended) the ~~impulse transmission~~ Ultra Wideband system of claim 31, wherein said temporal ~~pulse~~ characteristic corresponds to a ~~pulse~~ position in time.

33. (currently amended) the ~~impulse transmission~~ Ultra Wideband system of claim 26, wherein each of said code element values comprises an integer or floating-point value.

34. (currently amended) the ~~impulse transmission~~ Ultra Wideband system of claim 26, wherein each of said code element values indicate any one of:

at least one component;

at least one sub-component of said component; and

at least one smaller component of said sub-component established by recursively breaking down said sub-component into smaller parts,

wherein said at least one component, said at least one sub-component, and said at least one smaller component are defined within at least one layout comprising a range of non-temporal pulse characteristic values.

35. (currently amended) the ~~impulse transmission~~ Ultra Wideband system of claim 34, wherein any one of said at least one component is any one of:

a same size; and

a different size

than others of said at least one component, and

wherein any one of said at least one sub-component is any one of:

a same size; and

a different size

than others of said at least one sub-component, and

wherein any one of said at least one smaller component is any one of:

a same size; and

a different size

than others of said at least one smaller component.

36. (currently amended) the ~~impulse transmission~~ Ultra Wideband system of claim 34, wherein said at least one component, said at least one sub-component, and said any number of smaller components comprise at least one non-allowable region established by at least one rule.

37. (currently amended) the ~~impulse transmission~~ Ultra Wideband system of claim 36, wherein said at least one rule establishing at least one non-allowable region is based on any one of:

a minimum value; and

a maximum value,

of any one of:

said at least one component;

said at least one sub-component; and

said any number of smaller components.

38. (currently amended) the ~~impulse transmission~~ Ultra Wideband system of claim 36, wherein said at least one rule establishing at least one non-allowable region is based on minimum and maximum values within any one of:

said at least one component;

said at least one sub-component; and

said any number of smaller components,

within a layout.

39. (currently amended) the ~~impulse transmission~~ Ultra Wideband system of claim 36, wherein said at least one rule establishing at least one non-allowable region is based on at least one non-temporal characteristic value of at least one other pulse.

40. (currently amended) the ~~impulse transmission~~ Ultra Wideband system of claim 39, wherein said at least one rule establishes a minimum value difference or a maximum value difference.

41. (currently amended) the ~~impulse transmission~~ Ultra Wideband system of claim 39, wherein said at least one rule establishes a region bounded by a minimum and maximum value difference.

42. (currently amended) the ~~impulse transmission~~ Ultra Wideband system of claim 34, wherein an established offset value is used to specify an exact non-temporal characteristic value within any one of:

said at least one component;

said at least one sub-component; and

said any number of smaller components indicated by said code element value.

43. (currently amended) the ~~impulse transmission~~ Ultra Wideband system of claim 42, wherein an absolute offset value is added to the minimum value of the component, sub-component, or smaller component to which the code element value is mapped.

44. (currently amended) the ~~impulse transmission~~ Ultra Wideband system according to claim 42, wherein a relative offset value is used to specify a value that is a fraction of the difference between the minimum value and maximum value of any one of:

said at least one component;

said at least one sub-component; and

said any number of smaller components.

45. (currently amended) the ~~impulse transmission~~ Ultra Wideband system of claim 44, wherein a fractional part of a floating-point code element value comprises said relative offset value.

46. (cancelled)

47. (currently amended) the ~~impulse transmission~~ Ultra Wideband system according to claim 26, wherein the type of said Ultra Wideband waveform comprises at least ~~pulse indicates whether said pulse is any~~ one of:

a square wave pulse;

a sawtooth pulse;

a Haar wavelet pulse;

a Gaussian monopulse;

a doublet pulse;

a triplet pulse; and

a set of wavelets.

48. (currently amended) the ~~impulse transmission~~ Ultra Wideband system according to claim 26, wherein each code element value corresponds to a value defined within a layout comprising discrete non-temporal ~~pulse~~ characteristic values.

49. (currently amended) the ~~impulse transmission~~ Ultra Wideband system according to claim 26, wherein each code element value corresponds to a value defined within a layout comprising a range of non-temporal ~~pulse~~ characteristic values and discrete non-temporal ~~pulse~~ characteristic values.

50. (currently amended) the ~~impulse transmission~~ Ultra Wideband system according to claim 34, wherein said layout is a delta value layout.